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ABSTRACT

The purpose of this research was to develop and validate a self-report, group-administered, non-verbal inventory tc measure Self Perception In School (SPS) among primary grade children. Inventory items were based on Sarbin's Role Theory. Since role may be studied in terms of the actions expected of an occupant of that position, the role of student was defined as those behaviors teachers expect of students. From this universe, a set of items was devised. Three pilot studies were conducted. The final version of the inventory uses 19 cartoon-like drawings in transparency form (dichotomous presentation and responses) to probe an equal number of behaviors. In the major study, the Self Perception in School (SPS) inventory was administered to a sample of 656 first, second, and third graders in two schools of a white middle-class suburban system. It was concluded that: (1) the SPS inventory is a reliable, valid, inexpensive, ncn-verbal measure of the construct at the primary level; (2) the structure of the "self" is not unidimensional; (3) the SPS is significantly related, at the primary level, to teachers' ratings of children's behavior and to reading and arithmetic achievement; (4) girls have a more positive self perception in school than boys at the primary level; and (5) while the mean SPS of girls is relatively similar across grades, the mean SPS of boys consistently decreases from grade one through grade three. Means, standard deviations, and reliabilities are listed. See TM 000 409 for a report on correlates of the SPS. (Author/DG)

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SELF-PERCEPTION-IN-SCHOOL

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The last two decades have witnessed a recognition of the inadequacy of the behavioristic model for understanding and/or predicting the complex behavior of individuals. It has also witnessed, therefore, a reemergence and increasing emphasis on the role of the self.

Several kinds of self reports have been developed for use in research on the self of adults, e.g., Bills, et al. (1951) Index of Adjustment and Values, Butler and Haigh (1954) Q-sort items, and Gough (1960) Adjective Checklist. Investigations of self among younger subjects have usually utilized modifications of self-report instruments developed for use with adults. Self-perception studies of children younger than about fourth grade age are relatively rare (Gordon and Combs, 1958; Jacobs and Felix, 1968; Wylie, 1961) due to the subjects' inadequate communication skills. In those studies which have been done, each child is usually examined individually because reading, writing, and conceptual limitations prevent the use of the verbal-type instruments used with older subjects. Problems of expense and lack of validity due to children's tendency to respond to adults in a socially desirable way prevail. There is a need, then, for a self-report instrument specifically designed to measure the self-perceptions of young children, which does not require reading or writing skill, and which can be administered in a group situation.

The purpose of this research, therefore, was to develop and validate a self-report, group-administered, non-verbal inventory to measure a component of the self, the SELF-PERCEPTION-IN-SCHOOL [SPS], among primary grade children.

Method

Theoretical Base

The test developed in this research was based on the theories Mead and Sarbin. According to Mead (1934) the self develops in the individual as the result of the process of social experience and activity. Sarbin (1952), though basing his role theory on the concepts of Mead, postulates that while strongly influenced by his relationship with other people, the individual's development of self is also dependent upon his developing powers of perception and cognitive differentiation. In this theory, the "normal" child of about age two can perceive different roles to which he can respond with different types of behavior. On entrance into school new roles are defined for the child in relation to his classmates and to his teacher. It follows that in the social situation of the school there is a "role of a student", the attributes of which can be measured.

The term self-perception-in-school [SPS] is used in this study to signify that set of discrete characteristics one may attribute to himself in the school situation.

In the context of role theory, a role may be studied in terms of the actions expected of an occupant of a position. In this study, the role of student was defined as those behaviors teachers expect of students. Specifically, the teacher's expectations of students' behavior formed the "universe" from which appropriate test items were selected.

Test Items

To develop the pool of items, three elementary teachers listed children's behaviors commonly believed (and therefore appropriately reinforced) by teachers to be related to (a) "success in the academic environment," and (b) a positive self-image in school. The *a priori* dimensions to be considered in compiling the lists were the child's relation to (a) the teacher, (b) academic tasks, and (c) his classmates. This resulted in a 34-item pool from which 21 were selected because they could be pictorially represented by only one picture per behavior. Three pilot studies were conducted with the 21 cartoon-like drawings [see Table 1 for behaviors depicted] to assess the face validity of the pictures, to ascertain the adequacy of the administrative procedures, and to provide practice in administering the inventory. Of the original set of 21, two pictures were eliminated and two were modified (and retested) following the first pilot study. Transparencies of the 19 drawings were made for use with an overhead projector. To intensify the focal characters, such that the young children might attend more particularly to them, they were re-outlined with the red felt-tip pen. Upon projection, then, the image of the focal characters was a red lined drawing, outlined in black. On the basis of the limited abilities of young children to choose among several alternatives, it was decided that a dichotomous presentation and response choice was best. Specifically, in each depicted situation the focal characters (both males and females) represented the extremes of the behavior, e.g., "happy" and "unhappy" to go to school.

To minimize the cost of administering the test and scoring the results an appropriately constructed answer sheet was used. Training procedures for using the answer sheet with such young children were given immediately prior to administration of the inventory. The training procedure was found to be quite sufficient to train most students, including first-graders in the use of the answer sheet.

Administration and Scoring

In administering the SPS scale the child is directed to choose the character in each picture which is "like you" and indicate his

choice on his answer sheet. Those characters which are performing as "expected" or "desired" by teachers are scored "1". The "undesirable" behavior is scored "0". Thus the child's self-perception-in-school [SPS] score is the number of choices which correspond to the "teacher's expectations of students' behavior" i.e. the positiveness of his self-perception-in-school is the degree to which he perceives and reports himself as conforming to expected behavior.

Major Study

In the major study, the self-perception-in-school [SPS] inventory was administered to 656 children in grades one to three in a white, middle-class suburban school district. Two weeks later two classes randomly selected, one from each school, at each grade level were retested. A validity sample of 30 children, randomly selected from classes not included in reliability re-testing, was individually retested with the SPS inventory and with a social desirability scale.

Results

Frequency distributions for the six grade x sex groups were negatively skewed. No girl in any of the three grades obtained a total score of less than 9 points, while boys in grade two and three scored as low as two points.

Reliability

Test-retest coefficients for each grade x sex combination ranged from a low of .67 for second-grade boys to a high of .87 for third-grade girls [Table 2].

As estimated by the KR_{20}, the SPS scale showed greater internal consistency for boys (.62 to .82) than for girls (.49 to .60) at each grade level, and increasing in general consistency for both sexes from first to third grade [Table 3].

Validity

In addition to the face validity of the SPS items, circumstantial evidence for the content validity was the moderately high internal consistency (KR_{20} = .74), indicating that the test items measured something in common.

As the first step in establishing construct validity of the SPS inventory, a stratified random sample of 30 students from the original testing group, (10 from each grade, equally divided between the sexes and schools) was retested with the SPS in an individual testing interview. [These interviews revealed a consistent misinterpretation of

one item, necessitating its exclusion from all scoring and analyses.] Responses for the 30 children interviewed were correlated with their responses from the group testing -- the different procedures of administration constituting different "methods" (Campbell & Fiske, 1959). The obtained correlation (r = .16, p > .05) was found to be not significant. Thus the two "methods" failed to "converge."

To ascertain possible reasons for the non-significant correlation in the analysis for convergent validity, it was noted that the pattern of means and standard deviations for the 30 children in the validity sample was opposite the pattern of the sample statistics for the (major study) original group. Specifically, in the original group-testing, the mean SPS for girls was greater than that for boys; for the children in the validity sample, the group-testing mean SPS for the girls was less than that for boys. Also, for the individual-testing SPS scores in the validity sample, the girls' mean SPS was also less than that of boys. Further, the same reversal of pattern from the original group to the validity sample existed in standard deviations -- the girls in the validity sample were more variable than (a) the girls in the original group and (b) the boys in the validity sample. It was tentatively concluded that sampling error may have caused the non-significant correlation between "methods".

To assess the degree to which social desirability might be influencing the children's responses on the SPS, a social desirability (SD) measure (Ford & Rubin, 1970) was administered to the interview sample. Correlation of the SD scores with the group-administered SPS (r =-.18, p > .05) and with the individually administered SPS (r = .27, p > .05) produced non-significant results in both cases. Lack of significant correlation indicated that the SD and SPS tests were measuring different variables.

Substantive Findings

Assessment of the underlying dimensions of the SPS instrument was performed via principal component analyses with varimax rotations for each grade x sex group. The analyses failed to yield interpretable factors across grades or between sexes, that is, the same items were, in general, not significantly loaded on the same factors, either among the boys or among the girls or between boys and girls in the same or in different grades. The developmental hypothesis of increasing self-differentiation with increasing age failed to be supported. However, like previous research on self-concept, the SPS was found to be multi-dimensional.

Lack of interpretable factors across grades or between sexes precluded the use of part- or sub-scores in subsequent data analyses. Substantial internal consistency justified use of logically defined total score for all analyses. All analyses were performed on the six grade x sex combinations and the total grade groups.

Correlations of SPS with theoretically-related behaviors indicated that: SPS correlated significantly with (a) teachers' behavior-ratings of students, (b) reading achievement, and (c) arithmetic achievement (only for boys). SPS was not significantly correlated with girls' arithmetic achievement, nor with a sociometric measure of popularity among classmates. An hypothesized stronger relationship for boys than girls between SPS and reading achievement was not obtained for grades one and three, nor for grade two with arithmetic achievement.

Multivariate analysis of variance of the SPS scores indicated that there were significant sex effects ($p < .0001$) as well as significant grade effects ($p < .0003$), independent of sex effect, and interaction ($p < .008$) [Table 4]. Inspection of the means indicated that the girls' mean SPS score was greater than that of the boys. Further the boys' mean SPS scores steadily decreased from grade one through grade three, while the girls' mean scores were relatively similar across grades [Table 5]. Also, the SPS scores for boys were found to be more variable (S = 2.09 to 3.72) than for girls (S = 1.75 to 2.12). Variability was also found to increase with increasing grade level [Table 5].

Conclusions

It was concluded that:

1. The SELF-PERCEPTION-IN-SCHOOL [SPS] inventory is a reliable, valid, inexpensive, non-verbal measure of the construct at the primary level.

2. SPS is significantly related, at the primary level, to those variables with which teachers are probably most concerned and therefore, communicate their expectations and evaluations most effectively, viz., school behavior and academic achievement.

3. Girls have a more positive self-perception-in-school than boys even at so early an age.

4. While the mean SPS of girls is relatively similar across grades, the mean SPS of boys consistently decreases from grade one through grade three.

5. The structure of the "self" be it self-concept or self-perception, is not unidimensional.

6. The developmental principle of increasing differentiation was not apparent from the SPS analyses. The differentiation has possibly occurred at a much earlier age, perhaps age two or three as Sarbin postulates.

If the instrument and findings are stable across replications, conclusions 3 and 4 are of prime importance to theory, research, and practice in education and child development.

TABLE 1

Self-Perception-In-School: Original Test Items

Dimension	Item[a]	Order of Presentation[b]
General	"happy" to go to school	1
Relation to academic tasks:	"likes" reading	16
	"likes" number work	2
	"smart"; doesn't make mistakes	5
	"attentive" to work; not daydreaming	9
	"at ease" (self-confident) in front of class	17
	learns "easily" (not puzzled by work)	15
	"neat", careful worker; paper not messy	12
Relation to teacher:	"independent," doesn't need teacher's help	19
	"attentive" to teacher	7
	"helpful" to teacher	4
	"accepted" by teacher[e]	11
	"obedient"; follows teacher's directions	14
	not punished or scolded	6
	not misbehaving	8
	"neat," clean desk and clothing	3
Relation to peers:	"leader" of project[c]	
	not aggressive	10
	"helpful" toward classmates, doesn't work alone	18
	"popular"[c]	
	not "show-off"[d]	13

[a]Only the "expected" behavior is given. The reader can easily infer the opposite behavior.

[b]The order of presentation of the pictures was randomly determined with the exception of the first item, the "generality" of which indicated it should be assigned the first position.

[c]Eliminated after pilot study

[d]Renamed "not noisy" after pilot study

[e]Eliminated from analyses after validity study

TABLE 2

Stability Coefficients (Two-week Retest):
Self-Perception-in-School, by Grade and Sex

	Sex					
	M		F		T	
GRADE	N	r	N	r	N	r
1	27	.75	19	.70	46	.73
2	22	.67	21	.77	43	.70
3	24	.82	23	.87	47	.84

TABLE 3

Internal Consistency (KR_{20}) Coefficients:
Self-Perception-in-School, by Grade and Sex

	Sex					
	M		F		T	
GRADE	N	r	N	r	N	r
1	129	.62	100	.49		
2	110	.80	100	.58		
3	117	.82	100	.60		
Total					656	.74

TABLE 4

Analysis of Variance of Self-Perception-in-School Total Scores

Source	*d.f.*	*SS*	*MS*	*F*	*p*
Grade	2	115.33	57.66	8.53	<.0003
Sex	1	140.71	140.71	20.81	<.0001
Grade x Sex	2	65.71	32.86	4.86	<.008
Within	650	4394.33	6.76		
Total	655	4716.08			

TABLE 5

Means and Standard Deviations of Self-Perception-in-School
Scores, by Grade and Sex

	Mean				Standard Deviation	
GRADE		M		F	M	F
1	(129)	15.21	(100)	15.37	2.10	1.76
2	(110)	14.51	(100)	15.47	3.14	1.96
3	(117)	13.50	(100)	15.20	3.74	2.13

Note -- Numbers in parentheses indicate *N*.

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